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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,958	11/19/2001	Naoki Oguchi	FUJZ 19.185	9665

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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	**PAPER NUMBER**
2619	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/988,958	OGUCHI ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 5 – 13 are pending.

Claims 1 – 4 had been canceled.

Claim Objections

2. Claim 9 is objected to because of the following informalities:

Regarding claim 9, the claimed subject matter does not conform to 35 U.S.C. 112 paragraph 6 (MPEP § 2181).

"*An element in a claim for a combination may be expressed as a means or step for performing a specific function without the recital of structure, material, or acts in support thereof, and such claim, shall be constructed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.*"

Line 5, "for" is missing after the term "means"

Line 8, "for" is missing after the term "means"

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the

international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 5, 9, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Delancy et al. (6937574 B1).

Regarding claims 5, 9, Delancy et al. disclose a virtual private network construction system for a public data communication network ("NSP to provide a very large number of VLANs on shared network facilities"; "VLAN" correlates to virtual private network, "NSP network/shared network facilities, ethernet" correlates to public data communication network; Fig. 1, column 1, lines 54 – 63, column 6, lines 46 -54) comprising: first relaying apparatus generating and multicasting control packets each of which contains a multicast address for constructing a virtual network ("an access switch" interpreted as first relaying apparatus; Fig. 2, column 6, lines 57 – 67, column 7, lines 10 – 22, column 8, lines 13 – 21) and; second relaying apparatuses establishing virtual links to the first relaying apparatuses which are transmitting sources of the control packets upon receipt thereof and for returning reply packets through the virtual (Fig. 3, column 7, lines 48 – 63), whereby the virtual links are established between all pairs of virtual relaying structures included and independently operable per virtual private network in the first and the second relaying apparatuses to construct the virtual private networks that are preliminary associated with the virtual relaying structures, provided with receiving virtual interface and belonging to the multicast address group represented by the multicast address (column 10, lines 38 – 67, column 11, lines 25 – 48).

Regarding claim 11, Delancy et al. disclose the relaying apparatus as claimed further comprising means for generating a routing table for each of a plurality of virtual networks logically independent of one another ("Destinations Address Association Table (DAAT)" correlates to a routing table for each of a plurality of virtual networks logically independent of one another; Column 7, lines 10 – 15), and means for performing a packet relay of each virtual network based on the routing table column 7, lines 15 – 20, lines 48 – 63).

5. Claims 5, 9, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by McCanne (US 6611872 B1).

Regarding claims 5, 9, McCanne discloses a virtual private network construction system for a public data communication network (recited "overlay network" correlates to virtual network, "Internet" correlates to public data communication network; Fig. 1, column 2, lines 40 – 49) comprising: first relaying apparatus generating and multicasting control packets each of which contains a multicast address for constructing a virtual network (Fig. 6, column 30, lines 30 – 48) and; second relaying apparatuses establishing virtual links to the first relaying apparatuses which are transmitting sources of the control packets upon receipt thereof and for returning reply packets through the virtual (Fig. 6, column 30, lines 51 – 57), whereby the virtual links are established between all pairs of virtual relaying structures included and independently operable per virtual private network in the first and the second relaying apparatuses to construct the virtual private networks that are preliminary associated

with the virtual relaying structures, provided with receiving virtual interface and belonging to the multicast address group represented by the multicast address ("a transit virtual interface (TVIF) provides a virtual interconnection between virtually adjacent overlay router", and "the control channels are effected using a fully connected mesh of TCP connections, while the pairwise virtual data channels are effected using a single native multicast group" correlates to the virtual relaying structures being provided with receiving virtual interface and belonging to the multicast address group; "each transit virtual interface represents a link in the overlay network topology and overlay routers forward packets to each other over these virtual path", and "overlay routers may overlay addresses onto native group address using a well-defined hash function and the peers that are interested in receiving a certain overlay group" correlates to virtual links are established between all pairs of virtual relaying structures independently operable per virtual network in the first and the second relaying apparatuses to construct the virtual network; column 7, lines 20 – 24, column 12, lines 17 – 27, lines 40 – 59).

Regarding claim 11, McCanne discloses the limitation of the relaying apparatus as claimed further comprising means for generating a routing table for each of a plurality of virtual networks logically independent of one another ("using Multipoint Infrastructure Transport (MINT) protocol, senders can attach named values to an overlay multicast group which is published into and across the overlay network,....."database" of state" correlates to means for generating a routing table for each of a plurality of virtual

networks; column 6, lines 37 – 51), and means for performing a packet relay of each virtual network based on the routing table ("each BGMP domain is configured with one or more blocks of multicast addresses and that BGMP domain advertises these blocks across the BRs using a routing protocol" correlates to means for performing a packet relay of each virtual network based on the routing table; column 17, lines 19 – 43; column 18, lines 24 – 27).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 6, 10, 7, 12, 8, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCanne (US 6611872 B1) in view of Ylonen et al. (US 6438612 B1).

Regarding claims 6, 10, McCanne discloses a virtual private network construction method, system, apparatus comprising the steps of generating and multicasting control packets each having set a multicast address predetermined per virtual network in first relaying apparatuses originating a virtual private network within a public data communication network (overlay network" as virtual private network, "Internet" as public data communication network; column 2, lines 40 – 49).

McCanne does not disclose the virtual private network construction method, system, apparatus as claimed in claimed wherein the second relaying apparatuses authenticate the control packets received.

Ylonen et al. disclose a virtual private network construction method, system, apparatus wherein the second relaying apparatuses authenticate the control packets received (Abstract, lines 12 – 19; column 7, lines 65 – 67; column 8, lines 1 – 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of McCanne to include the features of the virtual private network construction method, system, apparatus as claimed wherein the second relaying apparatuses authenticate the control packets received as taught by Ylonen et al. in order to provide secure transmission of data packets in a network comprising virtual routers (as suggested by Ylonen et al., see column 1, lines 8 – 10).

Regarding claims 7, 12, McCanne discloses a virtual private network construction method, system, apparatus comprising the steps of generating and multicasting control packets each having set a multicast address predetermined per virtual network in first relaying apparatuses originating a virtual private network within a public data communication network ("overlay network" as virtual private network, "Internet" as public data communication network; column 2, lines 40 – 49).

McCanne does not disclose the virtual private network construction method, system, apparatus as claimed wherein the virtual links comprise IP tunnels.

Ylonen et al. discloses a virtual private network construction method, system, apparatus wherein the virtual links comprise IP tunnels (column 2, lines 17 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of McCanne to include the virtual private network construction method, system, apparatus as claimed wherein the virtual links comprise IP tunnels as taught by Ylonen et al. in order to provide secure transmission of data packets in a network comprising virtual routers (as suggested by Ylonen et al., see column 1, lines 8 – 10).

Regarding claims 8, 13, McCanne discloses a virtual private network construction method, system, apparatus comprising the steps of generating and multicasting control packets each having set a multicast address predetermined per virtual private network in first relaying apparatuses originating a virtual network within a public data communication network (overlay network" as virtual private network, "Internet" as public data communication network; column 2, lines 40 – 49).

McCanne does not disclose a virtual private network construction method, system, apparatus wherein the virtual links comprise MPLS tunnels.

Ylonen et al. discloses the limitation of the virtual private network construction method, system, apparatus as claimed wherein the virtual links comprise MPLS tunnels (column 2, lines 53 – 59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of McCanne to include the virtual private

network construction method, system, apparatus as claimed in claimed wherein the virtual links comprise MPLS tunnels as taught by Ylonen et al. in order to provide secure transmission of data packets in a network comprising virtual routers (as suggested by Ylonen et al., see column 1, lines 8 – 10).

Response to Arguments

8. Applicant's arguments filed on 10/11/2007 with respect to claims 5 – 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Morgenstern et al. (US Patent No. 6587467 B1) disclose VC multicast implementation scheme utilizing VP tunneling over public ATM VP switched networks utilizing P2P and P2M connections to provide VC multicast capability to the attached private ATM networks.
- Delancey et al. (US Patent No. 6937574 B1) disclose methods and apparatus for routing packets through a communications network, a respective distinct broadcast address is assigned to each of a plurality of distinct sets of virtual ports. No virtual port belongs to more than one of the distinct sets.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<12/13/2007>

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SUPERVISORY PATENT EXAMINER